

AMENDMENT UNDER 37 CFR § 1.111
Serial No. 10/736,756

AMENDMENTS TO THE ABSTRACT

Please amend the Abstract as follows:

~~A~~ ~~In a method and an apparatus for coupling an optical waveguide to a light emitting diode (LED) or another light source to~~ within a resin case an optical waveguide structure via removing a section of a LED resin case to expose a surface closely proximal to a light emitting face of the semiconductor LED chip. ~~An~~ An input end of the optical waveguide is mounted proximal and ~~substantially perpendicular to the surface~~ a surface formed in the resin case parallel to a light-emitting face of the LED. The optical waveguide structure and ~~the~~ the LED resin case ~~are~~ can be bonded by, ~~in one embodiment of the invention,~~ a light or thermally curable resin that is applied and ~~further~~ subsequently solidified. ~~In a second embodiment of the invention~~ The light or thermally curable resin may be, a photopolymer, sensitive to the light emerging from the waveguide, ~~is used to bond the LED resin case and the optical waveguide structure.~~ An automated coupling system is ~~proposed~~ provided to optimize the coupling conditions using the in-coupled light efficiency feedback and controller. Finally a method is described allowing the coupling efficiency to be controlled using external excitation forces or light intensity variations, ~~thanks~~ to using the electro-optic, magneto-optic, thermo-optic, light polarization sensitive or nonlinear properties of the filler material used between the light emitting device resin case and waveguide.